Remarks

Claims 1-21 remain pending in this application after entry of this paper. The Examiner has rejected claims 1-21 under 35 U.S.C. 112, second paragraph. The Examiner has rejected 1-6, 9-16, and 19-21 under 35 U.S.C. 103(a) as being unpatentable over Gultekin in view of Kaku. The Examiner has rejected claims 7-8 and 17-18 under 35 U.S.C. 103(a) as being unpatentable over Gultekin and Kaku in further view of Henderson. Applicants believe that the present invention is patentable over the prior art.

Regarding the rejection of claims 1-21 under 35 U.S.C. 112, second paragraph, Applicants have amended claims 1, 7-8, 12, 15, and 17-18 to more particularly point out the invention.

Regarding the rejection of claims 1-6, 9-16, and 19-21 as unpatentable over Gultekin in view of Kaku, Applicants believe that the claims are patentable over the prior art. Claim 1 recites a broadband communication system of the type utilizing xDSL packet based technologies. The system comprises an upstream xDSL modem, a twisted pair connected to the upstream xDSL modem, and a plurality of taps defined along the twisted pair. The system further comprises a plurality of downsteam xDSL modems. Each downstream xDSL modem is in communication with a corresponding tap of the plurality of taps. The upstream xDSL modem and the plurality of downstream xDSL modems provide packet based point to multipoint communication between the upstream xDSL modem and the plurality of downstream xDSL modems. That is, claim 1 recites, in combination with other limitations, point to multipoint xDSL communication. The prior art fails to suggest point to multipoint xDSL communication in combination with the other recited limitations.

Gultekin does describe an initialization protocol for adaptive data rates and related transceiver. The Examiner states that Gultekin suggests point to multipoint xDSL communication and directs Applicants' attention to Col. 1, line 29; Col. 5, lines 30-41; Col. 9, line 63-Col. 10, line 3; and Fig. 1. Applicants contend that Gultekin fails to suggest point to multipoint xDSL communication.

Figure 1 is clearly point to point communication between TRX1 and TRX2. Col. 1 lines 27-29 describes an xDSL transceiver <u>pair</u> interconnected via a communication link. Col. 5, lines 30-41 describes communication between <u>two</u> ADSL modems, TRX1 and TRX2. And lastly, Col. 9, line 63-Col. 10, line 3 also fails to suggest point to multipoint xDSL communication. Col. 9, lines 63-67 does describe that two transceivers may negotiate a bidirectional data rate in an ADSL system. This section further states "or a unidirectional data rate (as in an HFC network for instance) wherein data are downstream broadcasted over a point to multipoint connection but where an upstream transmission is done over a point to point channel whose data rate may be negotiated during initialization." This specific portion of Gultekin does mention point to multipoint connections, but it is describing a hybrid fiber coaxle (agency) network and not made in reference to an xDSL system. There is no suggestion that the point to multipoint connection described for use with an HFC network is usable with an xDSL system.

The Examiner has relied on Kaku as suggesting the use of point to multipoint communication in the xDSL system of Gultekin. Kaku does describe modem communication and does mention the use of point to multipoint modem configurations to reduce line use fees and construction costs. However, point to multipoint in Kaku is described with reference to traditional modem connections, and there is no suggestion that the point to multipoint communication will be usable with an xDSL system such as the xDSL system of Gultekin. More specifically, there is no suggestion to add the feature of point to multipoint xDSL communication to the system of Gultekin. Gultekin mentions point to multipoint communication, but only in reference to an HFC network and does not suggest that point to multipoint communication is usable with an xDSL system. Kaku describes the use of point to multipoint communication in traditional modem systems, but again, there is no suggestion that the point to multipoint communication is usable in an xDSL system such as Gultekin. As such, the combination of Gultekin and Kaku fails to suggest the claimed invention cited by claim 1 including, in combination with other limitations, point to multipoint xDSL communication.

In addition, Applicants point out that Gultekin is an initialization protocol for adaptive data rates, and involves a pair of transceivers negotiating a data rate for future

transmissions over a communication link between the pair of transceivers. There is no suggestion in either reference to add point to multipoint capabilities to the ADSL system of Gultekin, and there is no suggestion that the initialization protocol for adaptive data rates of Gultekin would even be usable in such a system. This tends to further support the fact that there is no motivation to modify Gultekin to achieve the claimed invention as recited by claim 1.

Claims 12 and 15 are independent claims that are believed to be patentable for similar reasons as given above with respect to claim 1. More specifically, claims 12 and 15 each recite, in combination with other limitations, providing packet based point to multipoint communication between the upstream xDSL modem and the plurality of downstream xDSL modems. Claims 2-6, 9-11, 13-14, 16, and 19-21 are dependent claims and are also believe to be patentable.

Regarding the rejection of claims 7-8 and 17-18 as being unpatentable over Gultekin and Kaku in view of Henderson, these claims are dependent claims and are also believed to be patentable for their dependency.

For the reasons given above, claims 1-21 are believed to be in condition for allowance and such action is respectfully requested.

Respectfully submitted,

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Attachment

VERSION WITH MARKINGS TO SHOW CHANGES MADE

Please amend claims 1, 7-8, 12, 15, and 17-18 as follows:

1. (Amended) A broadband communication system of the type utilizing xDSL packet-based technologies, the system comprising:

an upstream xDSL modem;

a twisted pair connected to the upstream xDSL modem;

a plurality of taps defined along the twisted pair;

a plurality of downstream xDSL modems, each downstream xDSL modem being in communication with a corresponding tap of the plurality of taps, the upstream xDSL modem and the plurality of downstream xDSL modems [being configured to provide] providing packet-based point-to-multipoint communication between the upstream xDSL modem and the plurality of downstream xDSL modems.

7. (Amended) The system of claim 1 wherein the upstream xDSL modem and the plurality of downstream xDSL modems are [configured for use] in a packet-switched network.

8. (Amended) The system of claim 1 wherein the upstream xDSL modem and the plurality of downstream xDSL modems are [configured for use] in a cell-switched network.

12. (Amended) A broadband communication system of the type utilizing xDSL packet-based technologies, the system comprising:

a central office;

an upstream xDSL modem in communication with the central office;

a twisted pair connected to the upstream xDSL modem;

a plurality of taps defined along the twisted pair;

a plurality of downstream xDSL modems, each downstream xDSL modem being in communication with a corresponding tap of the plurality of taps, the upstream xDSL modem and the plurality of downstream xDSL modems [being configured to provide] providing packet-based point-to-multipoint communication between the upstream xDSL modem and the plurality of downstream xDSL modems.

15. (Amended) A broadband communication method for xDSL packet-based applications, the method comprising:

broadcasting from a point, over a twisted pair, with an upstream xDSL modem;

receiving at a plurality of points with a plurality of downstream xDSL modems, each downstream xDSL modem being in communication with a corresponding tap of a plurality of taps defined along the twisted pair, the upstream xDSL modem and the plurality of downstream xDSL modems [being configured to provide] providing packet-based point-to-multipoint communication between the upstream xDSL modem and the plurality of downstream xDSL modems.

17. (Amended) The method of claim 15 wherein the upstream xDSL modem and the plurality of downstream xDSL modems are [configured for use] in a packet-switched network.

18. (Amended) The method of claim 15 wherein the upstream xDSL modem and the plurality of downstream xDSL modems are [configured for use] in a cell-switched network.